

AIR WAR COLLEGE

AIR UNIVERSITY

ARCTIC INSECURITY: AVOIDING CONFLICT

By

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Biography

Lieutenant Colonel Johnson was born in Portsmouth, Virginia and commissioned through the Air Force Officer Training School in June 1989, entering the Air Force as an air battle manager in September 1989. He has served in a wide range of command and control positions on multiple weapons systems including Forward Air Control Post, Regional Operations Control Center, Airborne Warning and Control System, and Air Operations Center. As a staff officer Lieutenant Colonel Johnson served in the Aerospace Command and Control, Surveillance, Intelligence, Reconnaissance Center. A master air battle manager with over 2,400 flying hours, including 665 combat support hours, he participated in numerous operations including DESERT STORM, SOUTHERN WATCH, and PROVIDE COMFORT. Lieutenant Colonel Johnson holds a bachelor's degree in electrical engineering from Wentworth Institute of Technology, a master's degree in public administration from Troy State University, and a master's degree in military operational art and science from Air University.

Introduction

In September 2009, two German ships sailed from South Korea to Denmark via the Arctic Northern Route, the first commercial vessels to use the long envisioned shortcut.¹ The shortcut opening is only the first of many changes as rapidly diminishing Arctic ice opens the door to significantly increased development in the region, which will bring vast energy wealth, fisheries, increased shipping, and tourism. It will also bring pollution, crime, territory disputes, and resource competition. This paper argues that anticipation of these consequences is creating regional instability and national insecurity among Arctic nations, which in turn is creating a security dilemma and potential nation-state conflict. It recommends the expansion of existing multilateral and bilateral alliances to avoid conflict while meeting the interests of Arctic nations.

Regional insecurity has led the five border nations--Canada, Denmark, Norway, Russia, and the US--to revise Arctic policies and to expand Arctic military capabilities. The five national policies are surprisingly similar and provide an excellent framework for cooperation. The military expansion is a classic "security dilemma"--one nation's security measures are perceived as threatening to another. Resolving regional instability will settle the security dilemma.

The most important factors driving Arctic insecurity are lack of definitive sovereignty and lack of comprehensive regional governance. When the Arctic was a frozen ocean useful only for hiding submarines, nations were unconcerned with resolving territorial disputes. With the Arctic melting and its vast resource potential, nations are now competing for sovereign control of the Arctic Ocean and its seafloor. The adoption of United Nations (UN) Exclusive Economic Zones (EEZs) will open the possibility of exclusive resource rights to a significant portion of the

¹ Andrew C. Revkin, "Era of Trans-Arctic Shipping Nigh," *New York News DOT EARTH Blog*, 28 July 2009.

Arctic. Several factors require multilateral agreement before firm territorial lines are established. First, because EEZ definitions require scientific proof of continental shelves in the form of detailed seafloor maps, Arctic nations must complete mapping. Second, Arctic nations must agree on a method--sector or median²--for adjudicating overlapping claims. The debate and agreement over these methods requires a discussion forum. As an ocean rather than continental landmass, the Arctic lacks a well-developed governance authority. International maritime law applies to the Arctic, the most important of which is United Nations Convention of the Law of the Sea (UNCLOS). All eight Arctic nations except the US have ratified UNCLOS. Under UNCLOS, all 156 UN members can participate in decisions about Arctic development, resource allocation, and definition of EEZs.

The Arctic Council (AC) is a better alternative to UN Arctic management. Anticipating Arctic development challenges, the eight Arctic states of Canada, Denmark, Finland, Iceland, Norway, Sweden, Russia Federation, and the United States established the AC to manage development and environmental issues.³ Since 1996, the AC has successfully managed most issues, but several important topics are outside its mandate, including military security, shipping regulation, fisheries management, and law enforcement.⁴

Through National Security Presidential Directive (NSPD) 66, the US defined its Arctic strategy. This paper argues the best method to meet most of the US Arctic objectives is to pursue a multilateral diplomatic strategy using the AC as the primary forum. To meet its homeland

² The Median Line Principle and Sector Method Principle are two proposals for dividing the unclaimed polar region. Steven Fick and Julie Alyssa, "A La Carte Slicing the polar pie." *Canadian Geographic*.

³ The Arctic Council is comprised of eight nations, but only five nations have claims to a significant portion of the Arctic Ocean. In this paper these five nations—Canada, Denmark, Norway, Russia, and the US—are known as the Arctic border nations.

⁴ Arctic Council, "Declaration on the Establishment of the Arctic Council," September, 1996.

security objectives, the best solution is a modification of the existing bilateral North American Aerospace Defense (NORAD) agreement to include Arctic maritime control.

Background: Arctic Environment

The Arctic Ocean sea ice is thawing.⁵ The 2008 summer sea ice coverage was the second lowest coverage ever next to 2007.⁶ A recent study shows that within 30 years Arctic ice coverage will decline from the average of 2.8 million square miles to 620,000 square miles.⁷ Another model shows the ice coverage down to 770,000 square miles in 10 years.⁸ Several studies show Arctic sea ice may be completely gone by 2070.⁹ The warming trend is faster than recent models predicted with the Arctic surface air temperature 5°C above projections.

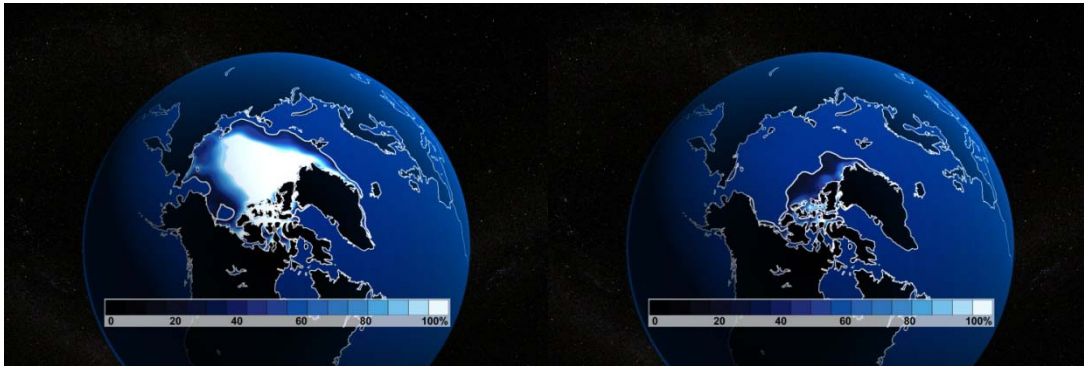


Figure 1: Arctic Summer Ice Coverage 2000 and 2040 (*National Snow and Ice Center*)

⁵ The Arctic Ocean is the portion of the world's oceans lying within the Arctic Circle (66° 33' 40").

⁶ AP, "Study: Arctic Sea Ice Melting Faster Than Anticipated," *Fox News.com*, 3 April 2009.

⁷ Ibid. Article cites Geophysical Research Letters report on study done by Muyin Wang of the Joint Institute for the Study of Atmosphere and Ocean, and James E. Overland of the National Oceanic and Atmospheric Administration's Pacific Marine Environmental Laboratory.

⁸ John Roach, "Arctic Summers Ice Free by 2040, Study Predicts," *National Geographic News*, 12 December 2006.

⁹ Adrienne Appel, "Arctic Ice Isn't Refreezing in the Winter, Satellites Show," *National Geographic News*, 17 March 2006.

New Opportunities

Opportunities and consequences of Arctic melt include increased commercial shipping, changes in fisheries, increased tourism, and access to the region's hydrocarbons. The retreating ice will open both the Northern Sea and Northwest Passage shipping routes. Historically closed throughout the year, these routes irregularly open during summer months but will open more frequently and for longer periods as the ice retreats. In August 2005, a Russian vessel was the first to reach the North Pole without an icebreaker.¹⁰ In 2008 for the first time, both passages were open at the same time. In September 2009, the *Beluga Fraternity* cargo vessel made the first non-state sponsored trip from Asia to Europe, saving 8,000 miles over the traditional route.¹¹ The Arctic shipping routes are an average of 40% shorter than traditional Mediterranean routes.¹² In addition to time and fuel savings, Arctic shipping routes are currently free from piracy, unlike the South China Sea and Indian Ocean routes. Until recently, high insurance rates due to unpredictable ice floes made Arctic shipping routes economically unfeasible. Now, a more predictable ice pattern, faster delivery times, fuel savings, and freedom from skyrocketing piracy insurance rates make Arctic commercial shipping an irresistible economic alternative to traditional shipping routes.

¹⁰ Energy Bulletin, "As the Arctic ice retreats, the old Great Game begins," *The Times*, 10 February 2006.

¹¹ Andrew C. Revkin, "Era of Trans-Arctic Shipping Nigh," *New York News DOT EARTH Blog*, 28 July 2009.

¹² *Ibid.*



Figure 2: Key Arctic Shipping Routes (*reprinted CIA – The World Factbook*)

Melting Arctic ice is changing fishing patterns and spurring the opening of new fisheries. As ocean temperatures change, fish stocks are migrating from traditional grounds to maintain their environment. One example is the Bering Sea king crab population moving further north each season in search of colder waters.¹³ As these fish move, they may migrate from one nation's EEZ to another nation's EEZ or into international waters, which will affect economic opportunity and environmental protection efforts.

Arctic tourism is booming due to a newly hospitable summer and fall climate. In 2008 Barrow, Alaska received its first German cruise ship.¹⁴ A Murmansk travel company is now offering North Pole cruises.¹⁵

¹³ Fisheries Working Group, "Policy options for Arctic Environmental Governance," *Arctic Transform*, 5 March 2009.

¹⁴ Tony Hopfinger, "A Whole New World," *Newsweek*, 21 August 2008.

¹⁵ Energy Bulletin, "As the Arctic ice retreats, the old Great Game begins," *The Times*, 10 February 2006.

Arguably, the most important implication of the Arctic Ocean's opening is potential access to vast amounts of oil and natural gas. In its July 2008 news release, the United States Geological Survey stated:

The area north of the Arctic Circle has an estimated 90 billion barrels of undiscovered, technically recoverable oil, 1,670 trillion cubic feet of technically recoverable natural gas, and 44 billion barrels of technically recoverable gas liquids in 25 geologically defined areas thought to have potential for petroleum.¹⁶

The Arctic possesses 13% of the world's undiscovered oil and 30% of the world's undiscovered gas.¹⁷

Security Challenges

New development opportunities created by melting ice will create conflict and security challenges. Each new opportunity in shipping, fishing, tourism, and energy brings a burden to protect human life and the environment.

Increased human presence introduces accidents, crime, hazardous material dumping, terrorist activities, and other adverse environmental impacts. In May 2009, the Norwegian Police Security Service announced the biggest terrorist target in Norway was an Arctic gas field--the Snohvit LNG plant.¹⁸ The Royal Canadian Mounted Police is concerned with narcotics

¹⁶ USGS, "90 Billion Barrels of Oil and 1,670 Trillion Cubic Feet of Natural Gas Assessed in the Arctic," *USGS News Release*, 23 July 2008.

¹⁷ Ibid.

¹⁸ Norwegian Barents Secretariat, "Counter terrorism training in Arctic gas field," *Barentsobserver.com*, 30 May 2009.

traffickers and organized crime in the Arctic.¹⁹ To mitigate new threats, the Russian State Duma are considering regulations for strict guidance and enforcement for the Northern Route.²⁰

Changes in fisheries will destabilize in commercial fishing. Commercial fishing fleets will follow migrating fish or attempt to open new fisheries in other nations' EEZs. Arctic nations will face the challenge of protecting fishing industries from outside competition, overfishing, and pollution. A complicating enforcement factor is fractured international fisheries governance--there are no international fisheries' management mechanisms north of the Bering Strait or at the center of the Arctic Ocean.²¹ Poorly defined national fishing boundaries and inconsistent resource management will likely lead to conflict.

Securing access to Arctic hydrocarbon resources will be highly competitive since energy resources are critical to any nation's national security. Russia currently exports oil, but its reserves will decline after 2010. The US has reserves for ten years and Norway for seven.²² As nations begin hydrocarbon exploration, clearly defined and internationally binding territorial borders are critical to prevent conflict.

Arctic Territory Question

Like land borders, national ocean borders are recognized by custom, treaty, and international agreement. UNCLOS governs nearly every aspect of maritime law, including

¹⁹ Clifford Krauss, Steven Lee Myers, Andrew C. Revkin and Simon Romero, "As Polar Ice Turns to Water, Dreams of Treasure Abound," *The New York Times*, 11 October 2005.

²⁰ Norwegian Barents Secretariat, "Russia prepares law on Northern Sea Route," *Barentsobserver.com*, 13 February 2009.

²¹ Fisheries Working Group, "Policy options for Arctic Environmental Governance," *Arctic Transform*, 5 March 2009.

²² Global Research, "The Coming Conflict in the Arctic," *Globalresearch.ca*, 17 July 2007.

sovereign territory limits.²³ UNCLOS defines a nation's "territorial sea" as ocean that extends 12 nautical miles from its coast; its "contiguous zone" between 12 and 24 nautical miles; and its EEZ between 24 and 250 nautical miles. UNCLOS allows a nation to extend its EEZ to 350 miles if the nation's continental shelf extends to the outer edge of the continental margin.²⁴ All five Arctic border nations are aggressively conducting Arctic seabed mapping expeditions to document the extent of their continental shelves.²⁵ The US has signed--but not ratified--UNCLOS.²⁶

Russia submitted a claim for 460,800 square miles of Arctic seabed pursuant to UNCLOS in 2001. The UN rejected the claim and demanded additional geological evidence that the disputed sea shelf is a continuation of the Siberian continental shelf.²⁷ The Lomonosov Ridge is likely to be claimed by Russia, Canada, and Denmark as an extension of each country's continental shelf²⁸. UNCLOS lacks procedures for resolving overlapping claims but directs these claims be resolved through multilateral or bilateral agreement.²⁹ In addition to shelf claims there are other Arctic areas where nations have overlapping claims. The five primary disputes are: (1) Barents Sea boundary delineation between Russia and Norway, (2) Hans Island sovereignty between Canada and Norway, (3) the Northwest Passage strait status between the US and Canada, (4) Beaufort Sea boundary delineation between US and Canada, and (5) Bering Sea

²³ Stephanie Holmes, "Breaking the Ice: Emerging Legal Issues in Arctic Sovereignty," *Chicago Journal of International Law*, 1 July 2008.

²⁴ "the seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin. UNCLOS allows countries to exercise exclusive sovereignty over their continental shelves and the natural resources found there. Extended sovereignty over the continental shelf does not confer sovereignty over the water above." Stephanie Holmes, "Breaking the Ice: Emerging Legal Issues in Arctic Sovereignty" *Chicago Journal of International Law*, 1 July 2008.

²⁵ AHN Staff, "Canada, U.S. Join Forces To Make Arctic Map," *AHN*, 29 July 2009.

²⁶ Mia Bennett, "Fair Seas Ahead for UNCLOS?" *Foreign Policy Association Blogs*, 31 July 2009.

²⁷ Global Research, "The Coming Conflict in the Arctic," *Globalresearch.ca*, 17 July 2007.

²⁸ Steven Fick and Alyssa Julie, "A La Carte; Slicing the polar pie," *Canadian Geographic*.

²⁹ Stephanie Holmes, "Breaking the Ice: Emerging Legal Issues in Arctic Sovereignty," *Chicago Journal of International Law*, 1 July 2008. III. C.

boundary delineation between US and Russia.³⁰ The adoption of an Arctic border drawing method will resolve several problem areas. The two historical methods are median line—or “equidistant principle”—and sector line. Russia, Norway, and the US support the sector line theory while Canada and Denmark support the median line proposal.³¹ Support for each proposal is directly related to the amount of territory each nation controls under the proposal. Either of these methods used in the Arctic produces winners and losers. Arctic border nations must resolve the border question or conflict will ensue.



Figure 3: Median and Sector Line Proposals (*reprinted from Steven Fick and Alyssa Julie. “A La Carte Slicing the polar pie.” Canadian Geographic.*)

Arctic Council

Arctic nations formed the AC to provide multilateral Arctic governance. The Council is charged with promoting cooperation, coordination, and interaction among Arctic states and

³⁰ Roderick Kefferputz and Danila Bochkarev, “Expanding the EU’s Institutional Capabilities in the Arctic Region,” Heinrich Boll Foundation, EU Regional Office, December 2008.

³¹ Steven Fick and Alyssa Julie, “A La Carte; Slicing the polar pie,” *Canadian Geographic*.

indigenous communities for development and environmental protection issues but the Council is specifically prohibited from dealing with military security issues.³² According to the US Senior Arctic Official, including military security issues within the AC mandate “might negatively impact the otherwise excellent working relationships we have with the Arctic states in that forum, in particular Russia.”³³

Arctic Security Dilemma

All five border nations recognize the potential for conflict and have modified Arctic development and security policies. In some cases the new policies involve adding forces, which could lead to a classic realist security dilemma where the increasing security of one nation leads another nation to feel insecure and build up security.

Russia has been the most aggressive Arctic nation. Since 2007, Russia planted a flag on the North Pole seabed, announced a spring 2010 North Pole paratroop drop,³⁴ significantly increased strategic bomber patrols,³⁵ and announced the formation of an Arctic Command consisting of existing Northern and Pacific units.³⁶ Russia is concerned with a perceived alliance of the other four border nations against its interests³⁷ and is apprehensive that North Atlantic

³² Arctic Council, “Declaration on the Establishment of the Arctic Council” September 1996.

³³ Julia L. Gourley, US Senior Arctic Official, Office of Ocean and Polar Affairs, Washington D.C. To the author. E-mail, 5 November 2009.

³⁴ Randy Boswell, “Russia’s plan to drop troopers at the North Pole raises eyebrows,” *The Ottawa Citizen*, 30 July 2009.

³⁵ David Pugliese and Gerard O’Dwyer, “Canada, Russia Build Arctic Forces,” *DefenseNews*, 6 April 2006.

³⁶ Tom Parfitt, “Russia plans military force to patrol Arctic as ‘cold rush’ intensifies,” *The Guardian*, 28 March 2009.

³⁷ Comments by Russian Security Council Secretary Nikolai Patrushev on March 30, 2009, “The United States of America, Norway, Denmark and Canada are conducting a united and coordinated policy of barring Russia from the riches of the shelf. It is quite obvious that much of this doesn’t coincide with economic, geopolitical and defense interests of Russia, and constitutes a systemic threat to its national security.” David Pugliese and Gerard O’Dwyer, “Canada, Russia Build Arctic Forces,” *DefenseNews*, 6 April 2006.

Treaty Organization (NATO) will get involved.³⁸ In September 2008, Russia published a new strategy that identifies the Arctic as Russia's top strategic base for natural resources and allocates military forces to protect the expanse. It explains Russian force establishment to combat terrorism at sea, smuggling, illegal immigration, and fish poaching.³⁹ In 2009, Russian border guard ships resumed patrol of the Northern Sea route. The border guard increased Arctic radar surveillance coverage to 100% and has received 32 new ships to augment the 46 received since 2005.⁴⁰

Norway modified its 2006 High North Strategy in March 2009. It states that the High North is Norway's most important strategic priority and identifies two areas of possible conflicts: utilization of fisheries and future offshore petroleum resources.⁴¹ The Strategy identifies seven objectives, including exercising sovereign authority, developing knowledge, protecting the environment and indigenous populations, responsibly developing resources, and strengthening Norway-Russian relationships. It has announced improvements in maritime surveillance and emergency preparedness forces to enforce sovereignty. The strategy identifies fisheries and petroleum as resource priorities and identifies illegal, unregulated, and unregistered fishing as the greatest threat to sustainable fisheries. Norway's petroleum developmental concerns are environmental protection and Russian cooperation. Since Norway and Russia have overlapping claims to the Barents Sea, a firm understanding of economic national borders and close

³⁸ "Moscow has reacted angrily to suggestions by [NATO] that it could enter the fray in the far north. Russia's envoy to NATO said he would not discuss military co-operation with NATO in the Arctic because it was 'totally absurd' for countries not abutting the region to get involved." Tom Parfitt, "Russia plans military force to patrol Arctic as 'cold rush' intensifies," *The Guardian*, 28 March 2009.

³⁹ Katarzyna Zyak, "Russian National Security Strategy," *Geopolitics North*, 15 June 2009.

⁴⁰ Vladislav Kulikov, "The Border Service will put the Arctic under space monitoring," *Rossiyskaya Gazeta*. Moscow, 16 September 2009.

⁴¹ Norwegian Ministry of Foreign Affairs, "The Norwegian Government's High North Strategy," Oslo, Norway. 1 December 2006. p 7, 16.

cooperation on development practices must be in place to protect the environment and to prevent conflict.⁴²

While Norway's strategy addresses broad security concerns, Norway's Defense Minister narrowed his security priority to Russia in a recent speech.⁴³ Concerned with an aggressive Russian Arctic strategy, the Minister identified bilateral and multilateral interaction between Russia and other states as the best method of ensuring security.⁴⁴ In spring 2009, Norway was the first nation to move its military operations center to an Arctic base⁴⁵ and held a 13-nation Arctic military exercise with 7,000 participants against an enemy who seizes offshore oil rigs.⁴⁶

In June 2009, Denmark published its Arctic security strategy that includes establishing a joint-service Arctic Command, Arctic Response Force, and use of combat aircraft on surveillance and sovereignty missions.⁴⁷ Danish national security goals are in line with other Arctic nations--protect the environment, responsibly develop resources, protect sovereign territory, and respect indigenous populations.

Canadian national identity is linked to the Arctic in the July 2009 "Northern Strategy" which outlines four focus areas--exercising Arctic sovereignty, promoting social and economic development, protecting the North's environmental heritage, and improving and developing

⁴² Ibid., p 9.

⁴³ Norway's Defense Minister made comments during a speech to the Atlantic Council of Finland. Norwegian Government, "Norway's security outlook," Information from the Government and the Ministries website, 12 May 2009. p 3.

⁴⁴ Ibid.

⁴⁵ Mia Bennett, "Nordic Military Developments," *Foreign Policy Association Blogs*, 9 June 2009.

⁴⁶ Bob Weber, "Danish northern military plans raise fears of Arctic conflict," *Yahoo! News Canadian*, 26 July 2009.

⁴⁷ BBC News, "Denmark plans forces for Arctic," *BBC*, 16 July 2009.

indigenous governance.⁴⁸ In 2007, Canada announced the creation of a 900 Arctic ranger unit, two new Arctic military bases,⁴⁹ and an acoustic surveillance system to monitor Northwest Passage sea traffic.⁵⁰ In December 2007, Canada launched a satellite to monitor Canadian Arctic waters.⁵¹

NATO announced Arctic security concerns and is considering increased regional presence.⁵² NATO's two primary concerns are potential conflicts with Russia over boundaries and resources and potential conflicts between NATO nations over the same things as evidenced by the Beaufort Sea and Hans Island disputes.⁵³

Like its member states--Denmark, Finland, and Sweden--the European Union (EU) is interested in the Arctic, publishing its Arctic Region policy in November 2008. The EU policy has three objectives: protecting the environment and indigenous populations, promoting sustainable use of resources, and contributing to multilateral Arctic governance.⁵⁴ EU foreign policy leadership warned member states "significant potential conflicts" are likely from "intensified competition over access to, and control over, energy resources."⁵⁵ The EU's primary concern surrounds tensions between Russia and Norway.

The Arctic security dilemma may cause formation of additional security alliances. In June 2009 Norway, Denmark, Finland, and Sweden discussed the formation of a Nordic security

⁴⁸ Canadian Minister of Indian Affairs and Northern Development and Non-Status Indians. *Canada's Northern Strategy Our North, Our Heritage, Our Future*. Ottawa, ON, 2009.

⁴⁹ Tim Reid, "Arctic military bases signal new Cold War," *The Times*, 11 August 2007.

⁵⁰ CBC News, "Canada to monitor water traffic in Northwest Passage," *CBC.ca*, 24 September 2007.

⁵¹ CBC News, "Canadian satellite set to keep an eye on Arctic," *CBC.ca*, 14 December 2007.

⁵² In August 2009, NATO's General Secretary announced a stronger NATO presence is needed in the Arctic. Norwegian Barents Secretariat, "Stronger NATO presence in the Arctic," *Barentsobserver.com*, 21 August 2009.

⁵³ Randy Boswell, "NATO chief cautions against Arctic divisions," *Canada.com*, 29 January 2009.

⁵⁴ Commission of the European Parliament and the Council, "The European Union and the Arctic Region," Brussels, 20 November 2008.

⁵⁵ Ian Traynor, "Climate change may spark conflict with Russia, EU told," *Guardian.co.uk*, 10 March 2008.

cooperation, or Scandinavian Defense Union, to balance Russia's growing Arctic power and provide security and services.⁵⁶ The pan-Nordic agreement would create combined naval, land, and air forces to monitor and patrol Arctic regions.⁵⁷

US Arctic Strategy

The US published Arctic security policy NSPD 66 on 12 January 2009. The US objectives are homeland security, environmental protection, resource management, strengthened cooperation with other Arctic nations, and involvement of indigenous communities in decision making. The stated interests are missile defense, early warning, strategic sealift, strategic deterrence, maritime presence, freedom of navigation, and maritime security operations.⁵⁸

Under national and homeland security, NSPD 66 specifically identifies terrorism and criminal activity as special concerns.⁵⁹ NSPD 66 identifies freedom of the seas--specifically Northwest Passage access--as a top national priority.⁶⁰ Canada and the US have long disagreed on the Northwest Passage status as an international strait. Canada holds the strait is an internal waterway while the US considers it an international waterway.

NSPD 66 recognizes the importance of the AC and requirement for Arctic governance improvement. NSPD 66 praises AC environmental protection and sustainable development management, but does not support increasing the Council's mandate. NSPD 66 calls for immediate UNCLOS ratification because membership serves US security interests, ensures US

⁵⁶ Mia Bennett, "Nordic Military Developments," *Foreign Policy Association Blogs*, 9 June 2009.

⁵⁷ Gerard O'Dwyer, "Nordic Nations Eye Joint High North Patrols," *Defense News*, 4 May 2009.

⁵⁸ National Security Presidential Directive 66. Arctic Region Policy, 12 January 2009. pg 1 B. 1.

⁵⁹ *Ibid.*, pg 1 B. 2.

⁶⁰ *Ibid.*, pg 3 B. 5.

Armed Forces' maritime mobility, secures US maritime rights, promotes environmental protection, and gives the US voice when interests are "debated and interpreted."⁶¹

Although NSPD 66 strongly advocates for UNCLOS ratification, it remains an intractable issue. Completed in 1984, UNCLOS has 156 ratified members and is a comprehensive legal regime for the international management of oceans and undersea resources.⁶² President Clinton signed the treaty in 1994 after a US-led modification addressed seabed-mining restrictions.⁶³ The US Senate has, to date, refused to ratify the treaty. UNCLOS advocates contend it provides a common regime for peaceful resolution of ocean disputes, protects US commercial and military freedom of the seas, and benefits US business interests by providing better resource claims protection. The primary reason UNCLOS advocates seek ratification is US representation to influence commercial shipping, seabed mining, military movement, and environmental protection decisions.⁶⁴

UNCLOS foes call it the Law of the Sea Treaty--LOST-- arguing it undermines US sovereignty. UNCLOS requires US submission to consensus rule of international committees including the International Tribunal for the Law of the Sea and the International Seabed Authority. UNCLOS foes argue that like the UN General Assembly, the international community may vote against the US on political rather than substantive grounds.⁶⁵ Without a veto—such as in the Security Council--the US would be forced to abide by the majority decision, perhaps forcing US businesses to pay resource extraction fees, requiring technology exchange, restricting

⁶¹ Ibid.

⁶² Abigail Long, "The United States and the Law of the Sea," *Citizens for Global Solutions*, 29 July 2009.

⁶³ Ibid.

⁶⁴ Mia Bennett, "Fair Seas Ahead for UNCLOS?" *Foreign Policy Association Blogs*, 31 July 2009.

⁶⁵ Ibid.

military and commercial ship movement, and forcing environmental regulation against the US interests.⁶⁶

Unlike other Arctic nations, the US has not significantly increased its Arctic security forces except for the establishment of Arctic Coast Guard station.⁶⁷ Although NORAD provides extensive capabilities to monitor activities in the Arctic including air surveillance, air control, and maritime surveillance,⁶⁸ its capabilities are insufficient to meet several NSPD 66 security objectives including environmental protection and homeland security. Currently, the Coast Guard only has three icebreakers to patrol Arctic regions and a single Arctic station.⁶⁹ Law enforcement is limited in Alaska. In October 2009, the US Navy published a four-year roadmap to increase Arctic mission capability⁷⁰, highlighting the need for strong cooperative international partnerships contributing to safety, security, and stability and acquiring the right Arctic capabilities.⁷¹

The Unified Command Plan (UCP) divides the Arctic into three Combatant Commands: US European Command (USEUCOM); US Northern Command (USNORTHCOM); and US

⁶⁶ Edwin Meese, III, Baker Spring, and Brett D. Schaefer, "The United Nations Convention on the Law of the Sea: The Risks Outweigh the Benefits," *WebMemo*, 16 May 2007. The Heritage Foundation, Washington D.C.

⁶⁷ Matthew L. Wald and Andrew C. Revkin, "New Coast Guard Task in Arctic's Warming Seas," *The New York Times*, 19 October 2007.

⁶⁸ US State Department, "Agreement between the Government of the United States of America and the Government of Canada on the North American Aerospace Defense Command," 28 April 2006.

⁶⁹ Angelia M. Rorison and Amy McCullough, "New Arctic policy likely part of service's '09 changes," *Navy Times*, 5 January 2009.

⁷⁰ US Navy, "US Navy Arctic Roadmap," October 2009.

⁷¹ Ibid.

Pacific Command.⁷² UCP command lines were drawn along longitude lines to encompass specific landmasses without regard for the Arctic.⁷³



Figure 4: Unified Command Arctic Boundaries (*adapted from United Command Plan 2008*).⁷⁴

⁷² Unified Command Plan, 17 December 2008.

⁷³ Alan L. Kollien, "Toward an Arctic Strategy," Strategy Research Project, 17 Feb 2009. Carlisle, PA: U.S. Army War College, 2009.

⁷⁴ Figure adapted from 2008 United Command Plan by Alan L. Kollien.

Recommendations: Avoiding Conflict

Arctic development is exploding despite inherent uncertainty of unresolved EEZs, which in turn drives insecurity and increased security precautions.⁷⁵ This security increase promises a security dilemma and imminent conflict. The question is not ‘if’, but ‘when’ and ‘at what cost’. Diplomacy is the best method of avoiding conflict from a security dilemma. Diplomatic communication fosters discussion and resolution of security concerns behind the security dilemma. Addressing the underlying insecurity will defuse the security dilemma and reduce possibility of conflict.

Selecting Arctic Governance

The first step in any diplomatic solution is identification of a forum. Currently, no comprehensive forum exists. Arctic authority is fragmented, lacks effective instruments, requires an overall policy-setting process, and has gaps in participation, implementation, and geographic scope.⁷⁶ At present, the UN under UNCLOS is the *de facto* Arctic forum and has the significant advantage of legitimacy. The greatest problem with UN Arctic management is that UNCLOS is a global ocean management instrument and does not address specific Arctic challenges. With 156 members, UNCLOS takes a long time to reach consensus, which may not be in the best interests of the Arctic nations. To protect their interests, each member nation may slow or sabotage the discussions. With an estimated 25% of the world’s remaining hydrocarbon energy stored in the

⁷⁵ Fisheries disputes are one example of resource competition moving toward conflict even among allies. For example, in the 1990s, Canada deployed military combat ships to back up coast guard ships on fisheries enforcement missions against allied European nations. “Military should focus on coastline, not war: Layton,” *CBC News*, 13 September 2006.

⁷⁶ Commission of the European Parliament and the Council, “The European Union and the Arctic Region,” Brussels, 20 November 2008.

Arctic, the larger world community is interested in gaining access to the Arctic.⁷⁷ Non-Arctic states may stall EEZ border resolution in the hopes of exploiting Arctic resources. A compounding weakness to UNCLOS Arctic management is lack of US participation in UNCLOS.

The Arctic Council is a better alternative to UN Arctic management. While the Council lacks the legitimacy of the UN since it has only eight members and all are wealthy developed nations, it has several advantages from the Arctic nations' point of view. First, because membership is limited to Arctic nations, consensus is not impacted by nations without a direct claim. The smaller voting bloc removes political spoilers, reduces competing interests, and shortens decision and action timelines. Second, UNCLOS cannot resolve overlapping claims and requires nations to develop multilateral claim resolutions.⁷⁸ Arctic Council agreements are by nature multilateral and therefore meet national and UNCLOS requirements to answer overlapping claim disputes. Third, all Arctic nations are voting members of the Arctic Council. The US, the most powerful Arctic member, is not a UNCLOS voting member. UNCLOS decisions do not include US inputs and therefore may not be recognized by the US as binding. Arctic Council decisions would be inclusive and recognized by the entire Arctic community of nations. Fourth, the Council provides a clean slate outside the traditional forum of animosity allowing a fresh start for the Arctic nations. The UN, with its long history of Cold War animosity within the Security Council, has accumulated mistrust. The Arctic Council does not have this

⁷⁷ Since 1999, China has conducted multiple Arctic expeditions and opened an Arctic science station to explore among other things fisheries, climate change, and Arctic energy resources. Clifford Krauss, Steven Lee Myers, Andrew C. Revkin and Simon Romero, "As Polar Ice Turns to Water, Dreams of Treasure Abound," *The New York Times*, 11 October 2005.

⁷⁸ "In the event that countries with opposite or adjacent coasts submit overlapping claims, [UNCLOS] Article 83 instructs the countries to agree on a boundary." Stephanie Holmes, "Breaking the Ice: Emerging Legal Issues in Arctic Sovereignty," *Chicago Journal of International Law*, 1 July 2008.

mistrust. Fifth, defining the Arctic Council as the premier Arctic forum will create a new threat-based alliance, which will reduce the insecurity felt between the Arctic nations. Norway, Denmark, and Canada are threatened by Russia's aggressive Arctic security measures and Russia feels threatened by the large number of NATO nations in the Arctic. Defining the Arctic Council as an alliance of Arctic nations against non-Arctic resource hungry nations reduces insecurity by placing potential adversaries on the same team. Lastly, since Arctic nations' objectives are similar, an Arctic Council alliance will allow members to share resources to meet objectives. The Arctic Ocean is immense, covering 2.8% of the earth's surface or approximately 5,426,000 square miles. Resource sharing will be critical in accomplishing the simplest of tasks, such as ship tracking or search and rescue. Resource interdependence will strengthen the alliance and further reduce insecurity.

This paper recommends US sponsorship of AC charter modification allowing the Council to discuss military security concerns. By opening up extended discussions, the Council will identify itself as the premiere governance forum and allow Arctic nations to discuss issues driving the security dilemma. Currently, the AC has six working groups dedicated to environmental protection, research, and protection of indigenous populations.⁷⁹ To fulfill its Arctic governance role the AC should add Arctic border, search and rescue, fisheries regulation, shipping management, and law enforcement coordination working groups.

⁷⁹ The six AC working groups are: 1) Arctic Contaminants Action Program (ACAP's objective is the reduction of emissions of pollutants into the environment in order to reduce the identified pollution risks), 2) Arctic Monitoring and Assessment Program (AMAP's objective is "providing reliable and sufficient information on the status of, and threats to, the Arctic environment), 3) Conservation of Arctic Flora and Fauna (CAFF's objective is to address the conservation of Arctic biodiversity, and communicate the findings to the governments and residents of the Arctic), 4) Emergency Prevention, Preparedness and Response (EPPR's objective is to deal with the prevention, preparedness and response to environmental emergencies in the Arctic), 5) Protection of the Arctic Marine Environment (PAME's mandate is the address policy and non-emergency pollution and control measures related to the protection of the Arctic marine environment), 6) Sustainable Development Working Group (SDWG's objective is to protect and enhance the economies, culture and health of the inhabitants of the Arctic). The Arctic Council.

Resolving Borders

Time is of the essence for border dispute resolution among Arctic nations to ensure their best interests are met, both individually and collectively. The greatest source of insecurity among Arctic nations is ill-defined EEZs. The AC must address this concern immediately for four reasons. First, border definition will be easier before nations expend extensive resources and develop intractable positions. Second, the security dilemma--or arms race--will continue to unnecessarily draw resources from Arctic nations. Third, uncertain borders invite non-Arctic state interference. Fourth, under UNCLOS nations have only ten years after treaty ratification to submit claims to extend EEZs from 200 to 350 miles.

There are three significant benefits from AC multilateral EEZ agreement. A multilateral agreement rather than a UN mandate will lead to a more secure and longer lasting agreement because it is more likely to meet Arctic nations' interests. Second, an AC agreement will manage overlapping EEZ claims not addressed by UNCLOS. Lastly, an AC-brokered agreement will include the US whereas an UNCLOS mandate will not include the US until UNCLOS ratification.

This paper recommends the US make the first border resolution concession by supporting the Canadian Northwest Passage position. A trilateral agreement--Canada, Denmark, and US--supporting the Canadian claim and declaring combined jurisdiction over all shipping in the Northwest Passage would accomplish three things.⁸⁰ First, the agreement would afford greater North American security by providing the US and Canada more authority over Northwest

⁸⁰ Dianne DeMille, "Steerage and Stewardship – US, Canada, & Denmark/Greenland should join Forces to Guard the North American side of the Arctic," *Canadian American Strategic Review*.

Passage access. Uncontrolled access could bring crime, terrorism, and illegal immigration. Second, conceding to Canada gives the US a stronger bargaining position in its Beaufort Sea dispute. Third, it demonstrates to the AC the US is serious about moving forward on Arctic border resolution. The US must fully support any AC effort defining Arctic EEZ borders.

Meeting US Arctic Security Objectives

US Arctic security is best served through a multilateral diplomatic strategy that requires effective Arctic governance, unified US effort, and strong alliances. The vast area of the Arctic and limited US resources demand that the US look to alliances to satisfy security objectives. The AC has significant advantages over the UN and best serves US interests. US must redefine its Arctic command structure to utilize any alliances. Most US Arctic objectives can be met through AC cooperation, but several homeland security objectives are best achieved through bilateral agreements with Canada.

Best Arctic Governance for US Interests

The US can meet four of its Arctic national security objectives--environmental protection, resource management, Arctic nation cooperation, and indigenous Arctic population involvement--through either an UN- or AC-led governance forum. UNCLOS provides the US with legitimacy and a voice in defining new international maritime law.⁸¹ UNCLOS ratification is a priority for the Obama Administration, but after three decades of disagreement, passage is not certain.⁸² Until UNCLOS is ratified, the US has no voice in UNCLOS discussions. AC-led governance provides the US with immediate influence in Arctic decisions. US Arctic security

⁸¹ Mia Bennett, "Fair Seas Ahead for UNCLOS?" *Foreign Policy Association Blogs*, 31 July 2009.

⁸² Cliff Kincard, "Obama's Ambitious U.N. Treaty Agenda," *AIM Column*. Accuracy in the Media, 8 July 2009.

cannot depend on UNCLOS ratification; therefore, this paper recommends the US support the AC as the primary Arctic governance forum.

Unified Command

The Unified Command Plan does not support Arctic strategy. Joint doctrine holds that unified action “synchronization, coordination, and/or integration of the activities of governmental and nongovernmental entities” occurs when there is unified command.⁸³ The three COCOM structure does not allow united action on Arctic concerns. Considering the Arctic security dilemma and NSPD 66 homeland objectives the logical choice is between USNORTHCOM and USEUCOM.

This author agrees with recommendations made by Alan Kollien in his paper “Toward an Arctic Strategy” that USNORTHCOM be designated as the Arctic COCOM.⁸⁴ There are two primary reasons for this recommendation. First, USNORTHCOM is the NORAD commander and is responsible for air defense and maritime surveillance of North America. As the second half of the bilateral alliance, USNORTHCOM has a special relationship with its counterpart, Canada Command. This relationship is critical to any Arctic homeland defense. Second,

⁸³ US Joint Chiefs of Staff. *Doctrine for the Armed Forces of the United States*. Joint Publication 1. Washington D.C.: US Joint Chiefs of Staff, 14 May 2007. GL-11

⁸⁴ In his paper, Lt Col Kollien provides two options for Arctic COCOM; USNORTHCOM and USEUCOM (pg 17 – 24). Lt Col Kollien defines the new COCOM “USNORTHCOM assumes all Alaskan Command and Joint Task Force Alaska missions. The new USPACOM-USNORTHCOM border would extend from its current northeast point along the 50th parallel to the southern tip of the mainland Kamchatka Peninsula. The new USEUCOM-USNORTHCOM border would stretch from its current position on the northern Greenland east along the coast to the northeast tip of Greenland. It then would proceed to the northern tips of Svalbard, Franz Josef Land, Severnaya, the New Siberian Islands and Wrangel Island. Then it would follow the Wrangel Island shore east to its eastern most point before proceeding due south to the Russian mainland.” Lt Col Kollien recommendation leave COCOM land mass assignment unchanged. Alan L. Kollien, “Toward an Arctic Strategy,” Strategy Research Project, 17 Feb 2009. Carlisle, PA: U.S. Army War College, 2009.

USNORTHCOM is a coordination command with extensive relationships with homeland security departments such as Coast Guard, Border Guard, and Transportation Security Agency, and with other executive agencies responsible for NSPD 66 implementation such as State, Interior, Energy, CIA, and Commerce.

Defending the Homeland

While the multilateral approach will mitigate many US Arctic security concerns, providing homeland defense is a continental problem. The threats to homeland defense such as terrorism, crime, and illegal immigration must be solved at the shoreline. The most efficient and cost-effective method to meet these responsibilities is through the bilateral NORAD agreement. NORAD covers the defense of North America including the Arctic and its future security threats.⁸⁵ It acknowledges national security threats as “non-military air and maritime activities associated with drug trafficking and other illegal transnational activities.”⁸⁶

NORAD does not address maritime control. NORAD-assigned air forces from either country are routinely used to enforce the North American air defense identification zone. However, enforcing the maritime environment is limited to exchanging maritime surveillance data and coordinating control between national agencies.⁸⁷ NORAD has recognized the need for increased Arctic surveillance and the necessity to work with the AC.⁸⁸

⁸⁵ US State Department, “Agreement between the Government of the United States of America and the Government of Canada on the North American Aerospace Defense Command.” 28 April 2006.

⁸⁶ Ibid.

⁸⁷ “Reducing Northern Exposure,” *Cargo Security International*.

⁸⁸ Pam Zubeck, “Arctic could be next hot spot for NORAD,” *Gazette.com*, 7 June 2009.

US should modify the NORAD agreement to address Arctic needs such as maritime control, law enforcement, and search and rescue. The 50-year-old NORAD agreement has been successful in defending North America and will continue to do so as the Arctic ice melts, but a modification is required to meet NSPD 66 homeland security objectives. Currently, maritime surveillance and control is exercised by national commands and coordinated bilaterally. A bilateral command would more effectively execute maritime control. This will allow both countries to use the other's naval assets to secure North American waters and shorelines. A maritime control amendment will allow NORAD-assigned maritime forces limited safety and security enforcement capabilities such as boarding, inspection, and custody. Since maritime control is more closely related to law enforcement than air control, close coordination with each nation's law enforcement agencies is critical.

Conclusion

The US and other Arctic nations must resolve the growing security dilemma and create a multilateral governance structure to support their Arctic security interests. The rapidly melting Arctic ice is expanding development while creating regional security threats. Resource and economic competition, security challenges, lack of governance, and poorly defined national borders are leading to regional insecurity, a build-up of security forces, and a 'security dilemma'. The security dilemma can be solved through multilateral agreements on Arctic Ocean EEZs and the formation of effective Arctic governance. Expansion of the successful AC represents the best governance option. Its voting membership is limited to nations with direct territorial interests in the Arctic and does not require UNCLOS ratification to participate. With the removal of the existing security discussion ban, the AC can create the agreements needed to resolve the border disputes, neutralize the security dilemma, and create cooperation that will allow Arctic nations to

pool their limited resources to accomplish their closely aligned national objectives. The US should lead this effort by supporting the claim that the Northwest Passage is an internal waterway. In addition to supporting the AC, the US should bolster its relationship with Canada by establishing USNORTHCOM as the single Arctic COCOM and modifying the NORAD agreement to better support Arctic maritime control.

Bibliography

- AHN Staff. "Canada, U.S. Join Forces To Make Arctic Map." AHN, 29 July 2009.
<http://www.allheadlinesnews.com/articles/7015936288> (accessed 20 September 2009).
- Appel, Adrienne. "Arctic Ice Isn't Refreezing in the Winter, Satellites Show." National Geographic News, 17 March 2006. <http://news.nationalgeographic.com/news/pf/7473216.html> (accessed 5 August 2009).
- Arctic Council. Declaration on the Establishment of the Arctic Council. September 1996.
<http://arctic-council.org/filearchive/Declaration%20on%20the%20establishment%20of%20the%20Arctic%20Council-1.pdf> (accessed 12 September 2009).
- Associated Press. "Study: Arctic Sea Ice Melting Faster Than Anticipated." Fox News.com, 3 April 2009. http://www.foxnews.com/printer_friendly_story/0,3566,512244,00.html (accessed 10 August 2009).
- Bennett, Mia. "Fair Seas Ahead for UNCLOS?" Foreign Policy Association Blogs, 31 July 2009.
<http://arctic.foreignpolicyblogs.com/2009/07/31/fair-seas-ahead-for-unclos/> (accessed 17 August 2009).
- , "Nordic Military Developments." Foreign Policy Association Blogs, 9 June 2009. <http://arctic.foreignpolicyblogs.com/2009/06/09/nordic-military-developments> (accessed 2 November 2009).
- BBC News. "Denmark plans forces for Arctic." BBC, 16 July 2009. <http://news.bbc.co.uk/2/hi/8154181.stm> (accessed 5 August 2009).
- Borgerson, Scott G. "Arctic Meltdown." Foreign Affairs 87, no. 2 (Mar/Apr 2008): 63-77.
- Boswell, Randy. "NATO chief cautions against Arctic divisions." Canada.com, 29 January 2009.
http://www.canada.com/story_print.html?id=1232006&sponsor= (accessed 10 September 2009).
- , "Russia's plan to drop troopers at the North Pole raises eyebrows." Ottawa Citizen, 30 July 2009. http://www.ottawacitizen.com/story_print.html?id=1843563&sponsor= (accessed 20 September 2009).
- Burd, Michael L. "Global Warming and the Combatant Commander: Engaging the Arctic." Joint Military Operations Department Research Paper, 23 October 2006. Newport RI: Naval War College, 2006.
- Canada. Canadian Minister of Indian Affairs and Northern Development and Non-Status Indians. Canada's Northern Strategy: Our North, Our Heritage, Our Future. Ottawa, 2009.

Cargo Security International. "Reducing Northern Exposure." Cargo Security International. http://www.cargosecurityinternational.com/_dataimages/CSIAS9NORADNORTHCOM.pdf (accessed 18 September 2009).

Carnagham, Matthew, and Allison Goody. "Canadian Arctic Sovereignty." Canada's Library of Parliament, 26 January 2006. <http://www.parl.gc.ca/information/PRBpubs/prb0561-e.htm> (accessed 1 February 2007).

CBC News. "Canada to monitor water traffic in Northwest Passage." CBC.ca, 24 September 2007. <http://www.cba.ca/canada/story/2007/09/24/technology-passage.html> (accessed 17 August 2009).

-----, "Canadian satellite set to keep an eye on Arctic." CBC.ca, 14 December 2007. <http://www.cbc.ca/technology/story/2007/12/13/tech-radarsat-launch.html> (accessed 8 August 2009).

European Union. Commission of the European Parliament and the Council. The European Union and the Arctic Region. Brussels, 20 November 2008.

DeMille, Dianne. "Steerage and Stewardship – US, Canada, & Denmark/Greenland should join Forces to Guard the North American side of the Arctic." Canadian American Strategic Review. <http://www.casr.ca/ft-arctic-trilateral-treaty-1.htm> (accessed 10 August 2009).

Energy Bulletin. "As the Arctic ice retreats, the old Great Game begins." The Times, 10 February 2006. <http://www.energybulletin.net/print/12818> (accessed 25 October 2009).

Fisheries Working Group. "Policy Options for Arctic Environmental Governance." Arctic Transform, 5 March 2009.

Fick, Steven, and Alyssa Julie. "A La Carte: Slicing the polar pie." Canadian Geographic. <http://www.canadiangeographic.ca/includes/global/PrintPage.asp> (accessed 26 October 2009).

Global Research. "The Coming Conflict in the Arctic." Globalresearch.ca, 17 July 2007. <http://www.globalresearch.ca/PrintArticle.php?articleId=6344> (accessed 8 August 2009).

Green, J. J. "Arctic melting: A serious threat to national security." WTOP.com, 26 February 2009. <http://www.wtopnews.com/?nid=778&sid=1610692> (accessed 10 August 2009).

Gourley, Julia L. US Senior Arctic Official, Office of Ocean and Polar Affairs, Washington D.C. To the author. E-mail, 5 November 2009.

Heiman, Marilyn. "Statement on New Arctic Policy Legislation." The Pew Charitable Trusts, 4 August 2008. http://www.pewtrusts.org/news_room_detail.aspx?id=54409 (accessed 28 September 2009).

Norway. Norwegian Barents Secretariat. "NATO seeking Arctic stability." Barentsobserver.com, 30 April 2009.

<http://www.barentsobserver.com/index.php?586725&cat=116320&printable=1> (accessed 10 September 2009).

-----, "Russia prepares law on Northern Sea Route." Barentsobserver.com, 13 February 2009.

<http://www.barentsobserver.com/index.php?id=4557561&cat=16149&printable=1> (accessed 20 August 2009).

-----, "Stronger NATO presence in the Arctic." Barentsobserver.com, 21 August 2009. <http://www.barentsobserver.com/index.php?id=4620769&cat=16149&printable=1>

(accessed 14 September 2009).

-----, "Counter terrorism training in Arctic gas field." Barentsobserver.com, 30 May 2009.

<http://www.barentsobserver.com/index.php?id=4597656&cat=16178&printable=1> (accessed 20 August 2009).

Holmes, Stephanie. "Breaking the Ice: Emerging Legal Issues in Arctic Sovereignty." *Chicago Journal of International Law*, 1 July 2008.

Hopfinger, Tony. "A Whole New World." *Newsweek*, 21 August 2008. <http://www.newsweek.com/id/154510/output/print> (accessed 29 November 2009).

Huebert, Dr. Rob. "Renaissance in Canadian Arctic Security?" *Canadian Military Journal*, 6, no. 4 (Winter 2005-2006): 17-29.

Killaby, Guy. "Great Game in a Cold Climate: Canada's Arctic Sovereignty in Question." *Canadian Military Journal*, 6, no. 4 (Winter 2005-2006): 31-40.

Kincard, Cliff. "Obama's Ambitious U.N. Treaty Agenda." *AIM Column. Accuracy in the Media*, 8 July 2009. <http://www.aim.org/aim-column/obamas-ambitious-u.n.-treaty-agenda/> (accessed 27 November 2009).

Kollien, Alan L. "Toward an Arctic Strategy." *Strategy Research Project*, 17 Feb 2009. Carlisle, PA: U.S. Army War College, 2009.

- Krauss, Clifford, Steven Lee Myers, Andrew C. Revkin and Simon Romero. "As Polar Ice Turns to Water, Dreams of Treasure Abound." *New York Times*, 11 October 2005. http://www.nytimes.com/learning/teachers/featured_articles/200510011tuesday.html (accessed 21 October 2009).
- Russia. Kulikov, Vladislav. "The Border Service will put the Arctic under space monitoring." *Rossiyskaya Gazeta*. Moscow, 16 September 2009.
- Long, Abigail. "The United States and the Law of the Sea." *Citizens for Global Solutions*, 29 July 2009. www.globalsolutions.org (accessed 21 November 2009).
- Meese, Edwin III, Baker Spring, and Brett D. Schaefer. "The United Nations Convention on the Law of the Sea: The Risks Outweigh the Benefits." *WebMemo*, 16 May 2007. The Heritage Foundation, Washington D.C.
- National Security Presidential Directive 66. Arctic Region Policy, 12 January 2009.
- North American Aerospace Defense Command and United States Northern Command. *Vision 2020*, 1 October 2009.
- Norway. Norwegian Government and Ministries website. *Norway's security outlook*. 12 May 2009. http://www.regjeringen.no/nb/dep/fd/aktuelt/taler_artikler/ministeren/forsvarsminister-stroem-erichsen/2009/norways-security-outlook.html?id=560809 (accessed 17 July 2009).
- , Senior group on proliferation (DGP) – The 2009 seminar in Oslo-Common threat-coordinated response. 12 May 2009. <http://www.regjeringen.no/en/dep/fd/whats-new/Speeches-and-articles/Speeches-and-articles-by-other-apolitica/statsekretaer-espen-barth-eide/2009/senior-defence-group-on-proliferation-dg.html?id=568045>. (accessed 17 July 2009).
- Norway. Norwegian Ministry of Foreign Affairs. *The Norwegian Government's High North Strategy*. Oslo, 1 December 2006.
- O'Dwyer, Gerard. "Nordic Nations Eye Joint High North Patrols." *Defense News*, 4 May 2009. <http://www.defensenews.com/story.php?i=4070496&c=FEA&s=SPE> (accessed 10 August 2009).
- Parfitt, Tom. "Russia plans military force to patrol Arctic as 'cold rush' intensifies." *Guardian*, 28 March 2009. <http://www.guardian.co.uk/world/2009/mar/28/russia-gas-oil-arctic-nato> (accessed 5 August 2009).
- Pugliese, David and Gerard O'Dwyer. "Canada, Russia Build Arctic Forces." *DefenseNews*, 6 April 2006. <http://www.defensenews.com/story.php?i=4025065> (accessed 10 August 2009).

Reid, Tim. "Arctic military bases signal new Cold War." *Times*, 11 August 2007. http://www.timesonline.co.uk/tol/news/world/us_and_americas/article2238243.ece?print=yes&rand . (accessed 5 August 2009).

Revkin, Andrew C. "Era of Trans-Arctic Shipping Nigh." *New York News DOT EARTH Blog*, 28 July 2009. <http://dotearth.blogs.nytimes.com/2009/07/28/era-of-trans-arctic-shipping-nigh/?pagemode=print> (accessed 20 September 2009).

----- . "Radars Taken Out by Arctic Warming." *New York Times*, 7 December 2007. <http://dotearth.blogs.nytimes.com/2007/12/07/cold-war-radar-taken-out-by-arctic-warming/> (accessed 31 July 2009).

----- . "Welcome to Earth's "New" Ocean: The Arctic." *NYTimes.com*, 10 September 2009. <http://dotearth.blogs.nytimes.com/2009/09/10/asia-europe-voyage-via-arctic-nearly-done/> (accessed 14 September 2009).

Roach, John. "Arctic Summers Ice Free by 2040, Study Predicts." *National Geographic News*, 12 December 2006. <http://news.nationalgeographic.com/news/pf/57322324.html> (accessed 5 August 2009).

Rorison, Angelia M., and Amy McCullough. "New Arctic policy likely part of service's '09 changes." *Navy Times*, 5 January 2009. <http://docs.newsbank.com/s/Infoweb/aggddocs/AFNB/125D729AAACD4680/0F56A02D68496F45> (accessed 12 August 2009).

Schlauder, W. E. "Adapting to a Changing World: The United States, Climate Change, and the Arctic Maritime Commons." Research Paper. Newport, RI: Naval War College, 2007.

United Kingdom. Smith, Dr. Mark A., and Keir Giles. *Russia and the Arctic: The 'Last Dash North'*. Defence Academy of the United Kingdom, September 2007. Shrivenham, England.

Traynor, Ian. "Climate change may spark conflict with Russia, EU told." *Guardian.co.uk*, 10 March 2008. <http://www.guardian.co.uk/world/2008/mar/10/eu.climatechange/print> (accessed 20 September 2009).

United States Geological Survey. "90 Billion Barrels of Oil and 1,670 Trillion Cubic Feet of Natural Gas Assessed in the Arctic". *USGS News Release*, 23 July 2008. <http://www.usgs.gov/newsroom/article.asp?ID=1980> (assessed 19 September 2009).

US Joint Chiefs of Staff. *Doctrine for the Armed Forces of the United States*. Joint Publication 1. Washington D.C.: US Joint Chiefs of Staff, 14 May 2007.

US State Department. "Agreement between the Government of the United States of America and the Government of Canada on the North American Aerospace Defense Command." 28 April 2006.

US Navy. "US Navy Arctic Roadmap." October 2009.

Wald, Matthew L., and Andrew C. Revkin. "New Coast Guard Task in Arctic's Warming Seas." *New York Times*, 19 October 2007. http://www.nytimes.com/2007/10/19/us/19arctic.html?_r=1 (accessed 14 September 2009).

Weber, Bob. "Danish northern military plans raise fears of Arctic conflict." *Yahoo! News Canadian*, 26 July 2009. http://ca.news.yahoo.com/s/capress/090726/world/arctic_military_buildup_1?printer=1 (accessed 20 September 2009).

Zubeck, Pam. "Arctic could be next hot spot for NORAD." *Gazette.com*, 7 June 2009. <http://www.gazette.com/common/printer/view.php?db=colgazette&id=57992> (accessed 29 September 2009).

Zyak, Katarzyna. "Russian National Security Strategy." *Geopolitics North*, 15 June 2009. <http://geopoliticsnorth.org/index.php?view=article&catid=1%3Alatest-news&id=87%3Arussian-national-security-strategy&catid=1:latest-news> (accessed 28 September 2009).